

### Abstract of the Disclosure

A digital echo cancellation device is provided. The digital echo cancellation device used for a high speed bidirectional communication system includes an adaptive beamformer in the form of a plurality of finite impulse response (FIR) filters for estimating an input receiving signal, the adaptive beamformer for estimating a front part, which rapidly changes in an echo path impulse response, by adaptively estimating the input receiving signal and an orthogonalized infinite impulse response (IIR) filter for receiving the estimated signal output from the adaptive beamformer and estimating a hind part of the echo path impulse response on the basis of an IIR. According to the digital echo cancellation device, the amount of calculation and the amount of required memory is significantly reduced, convergence speed is high, and the stability of the output of the filter is improved since the impulse response of the echo path is estimated by only several tens of taps.